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A conversion layer according to claim 1 [er-2], characterised in that it may contain, for further enhanced corrosion protection, additional components selected from the group consisting of silicate, cerium, aluminum and borate;

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, in particular organic polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccatives; dispersing agents; and

mixtures thereof.

- 4. A conversion layer according to any one of claims 1 to 3 characterised in that it is a basis for further inorganic and/or organic layers.
- 5. A conversion layer according to any one of claims 1 to 4, characterised in that it contains does or color pigments for modification of the inherent color thereof.
- 6. A conversion layer according to any one of claims 1 to 5, characterised in that its layer thickness is approx. 100 nm.

9. A method according to any one of claims 7 for a characterised in that the ligands of the chromium (III) complex are selected from the group consisting of:

chelate ligands, such as dicarboxylic acids, tricarboxylic acids, hydroxycarboxylic acids, in particular oxalic, malonic, succinic, glutaric, adipic, pimelic, suberic, azelaic, sebacic acid; and

furthermore, maleic acid, phthalic acid, terephthalic acid, tartaric acid, citric acid, malic acid, ascorbic acid; and further chelate ligands such as acetylacetone, urea, urea derivatives, and

further complex ligands wherein the complexing functional group contains nitrogen, phosphorus or sulfur ($-NR_2$, $-PR_2$, wherein R independently is an organic, in particular aliphatic radical and/or H, and/or -SR, wherein R is an organic, in particular aliphatic radical or H); phosphinates and phosphinate derivatives; as well as

suitable mixtures thereof, among each other as well as in mixed complexes with inorganic anions and H₂O and/or

the method is performed repeatedly on the surface to be passivated.

- 12. A concentrate according to any one of claims 10 or that the concentrate is present in solid or liquid form.
- 13. A concentrate according to any one of claims 10 to 12 characterised in that it contains further additives selected from the group consisting of: sealers, dewatering fluids; and

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr, Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W, and



anions, in particular halide ions, in particular chloride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, in particular organic polymers, corrosion inhibitors: silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccatives; dispersing agents; as well as

mixtures thereof.

- 16. A passivation bath according to claim 14 or 15, characterised in that it has a pH between approx. 1.5 and 3.
- 17. A passivation bath according to any one of claims 14 to 16, characterised in that it contains approx. 20 g/l chromium(III) and has a pH of approx. 2 to 2.5.
- 18. A passivation bath according to any one of claims 14 to 17, characterised in that it contains further additives in particular selected from the group consisting of sealers, dewatering fluids; and

additional metal compounds, in particular 1- to 6-valent metal compounds, for example compounds of Na, Ag, Al, Co, Ni, Fe, Ga, In, lanthanides, Zr; Sc, Ti, V, Cr, Mn, Cu, Zn, Y, Nb, Mo, Hf, Ta, W; and

anions, in particular halide ions, in particular chioride ions; sulfurous ions, in particular sulfate ions, nitrate ions; phosphoric ions, in particular phosphate ions, diphosphate ions, linear and/or cyclic oligophosphate ions, linear and/or cyclic polyphosphate ions, hydrogen phosphate ions; carboxylic acid anions; and silicon-containing anions, in particular silicate anions; and

polymers, corrosion inhibitors; silicic acids, in particular colloidal or disperse silicic acids; surfactants; diols, triols, polyols; organic acids, in particular monocarboxylic acids; amines; plastics dispersions; dyes, pigments, in particular carbon black, chromogenic agents, in particular metallic chromogenic agents; amino acids, in particular glycin; siccatives, in particular cobalt siccative; dispersing agents; as well as

mixtures thereof.

- 19. A passivation bath according to any one of claims 14 to 18, characterised in that it has a bath temperature of approx. 20 to 100°C, preferably 20 to 80°C, in a preferred manner 30 to 60°C, in a particularly preferred manner 40 to 60°C.
- 20. A method for passivating surfaces of zinc or zinc alloys, in particular ones with iron,

characterised in that

the objects to be treated are immersed in a passivation bath according to any one of claim 14 to 19.

- 22. A method according to <u>lany one of claims</u> 20 <u>br 21</u>, characterised in that it is an elevated-temperature chromate coating method with rinsing water recycling over at least 2 cascaded rinsing stages.
- 24. A passive layer obtainable by a method according to at least one of claim 20 to 23.



- 26. A passive layer according to claim 24 or 25, characterised in that it presents a greenish, red-green iridescent color for zinc.
- 27. A passive layer according to any one of claim [24 to 26], characterised in that its layer thickness is approx. 100 nm.
- 28. A conversion layer obtainable by a method according to at least one of claims 7 to 9.